DOCUMENT RESUME

ED 357 236 CE 063 640

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TITLE Gilligan's Moral Orientation Hypothesis: Strategies of Justification and Practical Deliberation.
PUB DATE 25 Mar 93
NOTE 28p.; Paper presented at the Annual Meeting of the Society for Research in Child Development (60th, New Orleans, LA, March 25, 1993).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adult Education; Adults; Ethics; *Evaluation Methods; *Moral Development; *Moral Values; Psychological Studies; *Sex Differences; Thinking Skills; *Validity
IDENTIFIERS Gilligan (Carol); Kohlberg (Lawrence)

ABSTRACT

Previous studies failed to determine whether Gilligan's (1982) justice and care perspectives represent two distinct orientations of moral reasoning. Using methods developed in research on reasoning and discourse processes, a study used a discursive framework to validate an alternate methodology for the investigation of moral orientation reasoning. A second study using these methods examined responses of 16 men and 16 women to 3 questions pertaining to Kohlberg's Heinz dilemma that were graded toward an increasing emphasis on retrospective evaluation. Results supported the hypothesis that subjects oriented to deliberation (mostly women) perceived this dilemma as a problem of prospective judgment (deliberation) as demonstrated by their use of narrative structures (interactive plans and social planning episodes). Subjects oriented to justification (mostly men) perceived the dilemma as a problem of retrospective justification as demonstrated by their focus on principles and rationales presented as a defense of their chosen solution. Evidence that this alternate account of moral orientation hypothesis is closely related to Gilligan's was provided by a high convergent validity score established between selection of those protocols exhibiting these strategies using this alternate method and those same protocols identified as either justice or care using Lyons (1982) measure. (Appendixes include 24 references and an encoding scheme for the Heinz Dilemma using the Moral Reasoning Grammar.) (YLB)

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Gilligan's Moral Orientation Hypothesis: Strategies of Justification and Practical Deliberation.[1]

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Previous studies have failed to determine whether Gilligan's (1982) justice and care perspectives represent two distinct *orientations* of moral reasoning. Using methods developed in research on reasoning and discourse processes a discursive framework was employed in a study that provides the validation of an alternate methodology for the investigation of moral orientation reasoning. A second study using these methods examined 32 adults' responses (16 men and 16 women) to three questions pertaining to Kohlberg's Heinz dilemma that were graded toward an increasing emphasis on retrospective evaluation. The results supported the hypothesis that subjects oriented to deliberation (mostly women) perceive this dilemma as a problem of prospective judgement (deliberation) as demonstrated by their use of narrative structures (interactive plans and social planning episodes); while subjects oriented to justification (mostly men) perceived the dilemma as a problem of retrospective justification as demonstrated by their focus on principles and rationales presented as a defense of their chosen solution. Evidence that this alternate account of moral orientation hypothesis is closely related to Gilligan's (1982) was provided by a high convergent validity score established between the *selection* of those protocols exhibiting these strategies using this alternate method and those same protocols identified as either justice or care using Lyons (1982) measure.

Introduction:

Early research in the assessment of Gilligan's (1982) moral orientation construct has shown salient gender differences and support for the claim that the two orientations represent distinct modes of moral reasoning. For example, Lyons (1983) examined subjects' responses to real-life dilemmas finding that while men and women were likely to use both justice and care considerations, men were more likely to focus on standards of fairness and women were more likely to see the problem in terms of the parameters of attachment. Findings such as these were interpreted as providing support for the hypothesi that moral orientation is associated with gender and that the "logics" of the orientations eac constitute a consistent or coherent approach to moral reasoning.

Other findings have been equivocal. In response to the question of gender differences in hypothetical dilemmas Johnston (1988) and Langdale (1983) found that gender proved the strongest predictor of consistent orientation use, while Walker, DeVries and Treventhan (1987) conclude that the evidence for the relationship is inconsistent. The evidence for se differences in adults' moral orientation in real-life dilemmas is also inconsistent. Lyons

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[1] I would like to acknowledege the contribution of Keith Oatley as well as to thank David Olson, Dwight Boyd, Rom Harré, Lawrence Walker and Hal White for their helpful comments on earlier drafts of this manuscript.

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(1983) and Gilligan and Attanucci (1988) have reported significant differences while Walker et al (1987), Walker (1989) and Pratt, Golding, Hunter and Sampson (1988) have reported non-significant or inconsistent findings. When these latter two studies analyzed the content of the dilemmas presented by subjects they found that women were more likely to choose dilemmas of a relational nature while men were more likely to recall dilemmas of an impersonal (nonrelational) character. Both these studies report that when these differences in the choice of content were controlled for gender differences in moral orientation disappeared. From this finding we could only conclude that women have been found to be more caring in their moral problem solving (i.e. concerned with the maintenance of relationship) *because* they have a penchant for choosing, as dilemmas, issues of a relational character.

These findings are problematic as the focus of Gilligan's investigations is apparently "the relationship between the understanding of moral problems and the strategies used in resolving them" (Gilligan and Attanucci 1988 p. 224). This requires an approach that distinguishes the subjects' understanding of the type of moral problem they face from the type of strategy they consider appropriate for dealing with it. What is lacking is a methodology that differentiates a theory that describes reasoning strategies (i.e. how one *uses* concerns about the maintenance of relationship or the alleviation of conflict in resolving a dilemma) from the content of concerns subjects present in the solutions to moral problems. Lacking such a methodology previous studies attempted to validate the orientation construct by determining the extent a subject's reasoning could be characterized as consistent.

Methodological and Conceptual Difficulties.

Gilligan and Attanucci (1988) analyzed individual considerations (or "thought" elements) in response to real-life dilemmas and found that two thirds of their sample exhibited consistent justice or care reasoning. The criterion set for identifying a consistent moral orientation was that 75% or more of the coded considerations in the dilemma belonged to either a justice or a care category. Using this same criterion Walker et. al (1987) found that only 53% of subjects exhibited consistent orientation reasoning. Further, when consistency was assessed by grouping considerations across three hypothetical and one real-life dilemma, Walker et al. (1987) found that only 40 of 240 subjects (16.7%) were consistent in their use of moral reasoning strategy. They conclude, contra Gilligan and Attanucci (1988) that most individuals use both orientations to a significant degree. According to Walker et al.

(1987): "[I]f most people use both orientations to a significant degree, then the validity of this notion of consistency as such is suspect, just as the moral stage concept would be invalid if most people used all stages in their reasoning" (Walker et al.1987; 855). These difficulties derive (partly) from practical limitations of the methodology used to investigate the moral orientation construct. These practical constraints have theoretical implications.

Practical constraints.

Gilligan and Attanucci (1988) describe the reliable coding of considerations as requiring "extensive training". While Walker et al. seems to be the only other recent study that coded considerations independently of moral orientation, they do not report reliability figures for this aspect of the coding. Difficulties in the coding of moral ideas might be explained by the fact that Lyons (1982) does not provide procedures or a theoretical basis for the identification of moral considerations independent of moral orientation (or any other idea of a moral consideration). Most researchers have chosen to code considerations or chunks of the protocol directly as either justice or care (Johnston 1988) or to apply a global classification of each protocol as either justice or care (Pratt, Golding, Hunter and Sampson 1988). The latter strategy precludes the possibility of examining consistency within dilemmas, while the former runs into difficulties having an adequate number of considerations to perform the required quantitative analyses (Gilligan and Attanucci determined that a minimum of four identified considerations are required to provide a consistency score). One solution (cf. Walker et. al. 1987) is to pool considerations across dilemmas, but this has the disadvantage of confounding orientation with dilemma content so that any examination of interactions between the reasoning strategy and the understanding of the problem task are obscured. The theoretical implication is that it pushes us toward an interpretation of the construct as a global characteristic of persons (or genders) rather than a strategy for persons (or genders) that is adequate to certain classes of problems. A research methodology better suited to investigating the latter would not preclude explanation of observed interactions in terms of a dispositional or gender-linked framework, it would likely inform it.

Internal Consistency of Lyons' Categories and Inconsistent Findings.

Inconsistent findings might also be explained by a lack of conceptual clarity in the coding categories. For example two of Lyons' five coding categories in the care orientation are (5) care of the self and (4) situation over principle. While these general (but theoretically

opaque) categories allow some coding of utterances of most solutions generated, they are likely not helpful in understanding aspects of a subject's solution as elements in a coherent strategy or orientation of moral reasoning. Problems of clarity are also endemic to some descriptions that appear within individual coding categories. For example in Care category #3 that codes considerations which include: "avoidance of conflict"; "alleviation of anothers suffering"; and "welfare of another" one might be at a loss to know how to code a resolution wherein an expressed concern for welfare argued that confrontation, and hence conflict, were necessary. These difficulties point to problems pertaining not only to the internal coherence of the theoretical account of the two ethics, but, also, suggest that the presence of these inconsistencies in the methods might be the source of the reports of inconsistent findings. The moral (as it were) is that while it is important that validation or consistency in moral orientation be subjected to empirical test, it is more essential that there is first a clear theoretical account and methodological criteria for what it is one is being consistent or coherent in. It is therefore an assumption of these studies that there is a need for a better explanation of what accounts for differences in moral orientation reasoning. This revision pertains not to the causal factors assumed to underlie any observed differences between subjects (i.e. the gender hypothesis). It relates only to discursive elements that,.it will be hypothesized, control (and to some extent better characterize) the *uses* of different orientations in dealing with issues of moral conflict. What is required, then, is (1) a clearer theoretical specification of the discursive role of orientation reasoning as a strategy for the resolution of practical moral conflicts, and (2) a methodology that can account for how different discrete knowledge elements (characteristic of either ethic) are combined to constitute an *orientation* of moral reasoning.

An Alternate approach.

The first requirement was met by adopting a discursive framework that distinguishes between justificatory and deliberative (ends-oriented) moral reasoning. The first strategy is concerned with the language of justification and focuses on the retrospective evaluation of moral actions. Judgements oriented to retrospective evaluation utilize the knowledge and processes relevant to *accepting or rejecting a moral judgement about a particular course of action.* Subjects in this orientation characteristically apply abstract principles and rationales as warrant for single actor plans that have been presented as solutions to moral conflicts. The other strategy focuses on prospective problems of practical deliberation. Judgements oriented to prospective appraisal of moral action use the knowledge and processes relevant

to *choosing one particular course of action over another.*[2] Subjects in this orientation utilize narrative descriptions wherein the significance of each participant actor's intention is taken into account, combined with relevant social knowledge, and used in generating plans and social episodes.

The methodological requirement was met by applying frameworks developed in research on reasoning, problem solving and discourse processes. Within this framework a precise specification of the two orientations is accomplished by first performing a task analysis, (i.e., analyzing the knowledge structures and processes that characterize the two ethics) and, second, by formally expressing these structures using B.N.F. rules (Backus, 1959). These rules (similar to recursive phrase structure rules used in psycholinguistics) specify how a structure corresponding to a rule name may be formed by applying other rules. This methodology allows for the identification of discrete knowledge structures (i.e. such as enabling conditions, goals and outcomes) as well as an opportunity to uncover how such entities are *used* by subjects in higher level structures that are characteristic of the two ethics. For example the two top level rules called by the JUSTIFICATION orientation include a PRINCIPLE and a RATIONALE, while the deliberative orientation uses structures (such as PLANs, INTERACTIVE PLANs and SOCIAL EPISODEs) that are called by the COURSE OF ACTION rule. These structures constitute a Moral Reasoning Grammar or MRG, a rule-based semantic phrase structure grammar, that formally describes the underlying semantics of both moral orientations. Definitions and examples of the rules defining these structures are described in the appendix .

Empirical validation of the MRG - Study 1.

A validations study was conducted on a sample of eight graduate students (four men and four women) from the faculty of literature and law of McGill University. Subjects' were read Kohlberg's Heinz dilemma and asked the open-ended question "What should Heinz do?" The protocols were analyzed using the MRG. Protocols were transcribed for analysis and then segmented into independent syntactic clauses, using Winograd's specification of the structure of English clauses (see Winograd, 1983).The steps involved in coding the protocols were as follows:

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[2]For a similar distinction applied to the philosophical history of ethics see Hampshire (1983).

(1) Identify the basic *nodes* (states and actions).
(2) Identify the *relations* between *nodes*.
(3) Identify the simple and interacting PLANs.
(4) Identify PRINCIPLEs and RATIONALEs.

Determining the reliability of coding with a semantic phrase structure grammar poses some difficulties. The analyses produced by the grammar are hierarchical often resulting in tree structures with many levels and embeddings. In order to provide an adequate assessment, three different analyses were undertaken. Two assessments were directed toward different levels of nodes while the other measured the reliability of relations. The coding agreement for some of the basic elements of the grammar (e.g., GOAL STATE, OPERATOR etc.,) was not tested since these were based on extensional definitions provided in the coding scheme. Other than these basic elements all the nodes and relations of the MRG were tested. All comparisons were based on an independent coding of a random selection of approximately two thirds of the analyzed protocols.

The first analysis examined the proportion of agreement in encoding the basic nodes *one* level up from the basic elements. The level of node examined depended on the extent of hierarchical embedding within a given protocol (and therefore provides only a partial measure of the *categories* of nodes assessed). The proportion of agreement for these nodes based on an encoding comparison of eighty-seven segments was .83. One limitation of this first analysis is that it cannot examine several of the higher level nodes of the grammar. More importantly, as any element appears *only* under a given node one level up, it does not provide an adequate measure of the reliability of encoding data *under* any particular node. That is, it cannot provide a test for how well the rules that represent knowledge structures in the higher levels of the grammar reliably encode data under their nodes. This is important as since these rule-based systems are (by definition) hierarchical much of the reasoning in a subject's protocol may be encapsulated under one of these nodes. The second analysis examined the proportion of agreement for segments coded *under* the higher level nodes that represent the knowledge structures that differentiate the orientations. Table #1 presents the proportion of agreement based on an encoding comparison of 61 segments.

Table 1

Proportion of Agreement for Segments Coded under Intermediate Nodes.*

INTERACTIVE PLAN	.92
SOCIAL EPISODE	1.
PRINCIPLE	.91
RATIONALE	.81

The proportion of coding agreement for the relations between plans was .81

The test of validity for the MRG rests on two basic outcomes. First is the extent the rules presented in the grammar provide adequate coverage of these data. This was assessed by determining the proportion of coded versus not coded segments. Based on an encoding comparison of eighty segments the proportion was .90. The second outcome is the extent the MRG can reliably *differentiate* the knowledge and processes that subjects employed as instances of either a justification or deliberative orientation. This issue was assessed by determining the proportion of basic nodes coded under the highest level structures that best represent the distinction between moral orientation. The top level rule of the MRG most clearly provides for this differentiation:

MORAL.SOLUTION ::= COURSE.OF.ACTION {JUSTIFICATION}*

The structures that are called by the COURSE OF ACTION rule include all the narrative and interactive structures that compose a deliberative strategy. The appendix gives a summary of the rules dominated by the COURSE OF ACTION node. The structures that are called by the JUSTIFICATION rule include PRINCIPLEs and RATIONALEs rules called by the optional JUSTIFICATION node. Table #2 shows the proportion of basic nodes of the MRG coded under either of these rules for the entire protocols for all eight subjects grouped by sex. The segments encoded under these nodes account for the major portion of the reasoning that subjects produce in response to the conflict.

Table 1.

Proportion of Nodes Coded under Top Level Rules.

	COURSE.OF.ACTION	JUSTIFICATION
Female Subjects.		
Subject #1	1.0	0.0
Subject #2	1.0	0.0
Subject #7	1.0	0.0
Subject #8	1.0	0.0
Male Subjects.		
Subject #3	.06	.94
Subject #4	.06	.94
Subject #5	.17	.83
Subject #6	.16	.84

In this preliminary study sex was found to be a stronger predictor of moral orientation than academic discipline in this small sample. None of the four females subjects employed JUSTIFICATIONs in their resolution of dilemma, while all four of the male subjects called on *both* PRINCIPLEs and RATIONALEs in their responses. Support for this discursive framework is provided by the fact that the segments encoded under the top level nodes account for the major portion of the reasoning that subjects produce in response to the conflict. Support for this discursive framework is provided by the fact the protocols characterized by justificatory or deliberative structures exhibited little of the knowledge processes characteristic of the opposite orientation. Support for the claim that the MRG methodology adequately differentiates between *orientations* of reasoning is provided by the fact that the segments encoded under the top level nodes account for the major portion of the reasoning that subjects produce in response to the conflict. However the quantitative analysis of this data makes the orientation distinction somewhat neater than a qualitative evaluation would support. For example, in one of the deliberative protocols there was neither a social episode or interactive plan. It was decided that in the construct validation study only those protocols using *interactive* planning structures would be scored as exhibiting a deliberative strategy.

Construct Validation for the Discursive Framework - Study 2.

As these discursive descriptions of the two ethics may be considered similar to Gilligan's "justice" and "care" orientations one goal of the second study was to compare the application of both methodologies to the analysis of subjects' responses to the same hypothetical dilemma. It was hypothesized that protocols identified as exhibiting a deliberation or justification strategy would demonstrate a high degree of association as measured by a comparison of the same protocols scored for either justice or care reasoning using Lyons' (1982) methodology.

Adopting a discursive framework also entails a commitment to take seriously the subjects' understanding of the problem task in determining the form of reasoning applied to a moral conflict. For example, it would follow that if those using a prospective strategy were to understand it is an evaluation of the course of action chosen which is required, then, it is likely that the knowledge structures they use will also reflect this shift in understanding. Previous research (cf. Johnston 1988) has addressed the issue of a shift by simply asking subjects whether there is another way to solve the dilemma The interview questions presented here are supported by the discursive framework. As variation in orientation reasoning can be confounded with variation in content of the dilemma solved (Pratt, et. al. 1988; Walker et. al. 1987) the requirement for standardization was met by presenting all subjects with Kohlberg's Heinz dilemma.

It is the feeling of some that the use of a hypothetical dilemma introduces a bias towards abstract (principled) reasoning and is thereby inadequate as a means to identify or validate different orientations of moral reasoning. Summarizing the conventional wisdom, Walker (1988) states that: "Hypothetical dilemmas, because of their abstracted nature, will tend to elicit rights considerations, whereas real-life dilemmas, because of their contextualized nature, will elicit response considerations (Walker 1989; p. 158). The argument seems to be that because the dilemma is "hypothetical" or of an abstract nature (i.e. an experimental artifact) it will require abstract reasoning for its resolution. This is a *non sequitor.* The former use of abstract refers, of course, to the dilemma being a product of the experimenter's imagination while the latter to the subject's preference for a generic or abstract reasoning strategy (i.e. a norm or principle) as decisive in dealing with it. It is trivially true that there are many "hypothetical" dilemmas not characteristically solved by application of a norm or rule (cf. Pratt, et. al., 1988). This does not, of course, make the dilemma any less hypothetical (in the actual sense). What is required is a theory and more

precise methods that can better distinguish between abstract reasoning strategies and the content of the concerns expressed in the resolution of moral conflicts.

In Kohlberg's Moral Judgement Interview (Colby and Kohlberg 1987) subjects are read the Heinz dilemma and then asked 'Should Heinz steal the drug?' The structured interview requires that the yes or no answer to this question be followed up by the question 'Why?' or 'Why not?' This encourages subjects towards a strategy of justifying the solution which they might favour. The strategy employed in this research was to first ask a question of moral/practical deliberation: 'What should Heinz do?' This requires the subject to generate a solution open to the protagonist they consider suitable for solving the problem without the knowledge that it need be of the sort that can be well defended.

An examination of the reasons which subjects present in defense of a given course of action were addressed by asking two additional questions, graded by an increasing emphasis on retrospection. Question (2) required subjects to evaluate the mode of reasoning they employed in generating their initial course of action. Question (3) attempted to make the retrospective element more salient by asking them to defend a course of action that had been enacted by a third party.

There were three basic hypotheses. First, it was conjectured that the subjects' moral orientation will determine the type of reasoning applied to a question of practical deliberation. That is, the manner in which they represent the problem (as requiring prospective judgement or retrospective evaluation) will determine whether the sequence of the knowledge structures applied will be characterized by either a deliberation or justification strategy (described below). Second it was hypothesized that there would be a greater degree of justification reasoning in response to questions that placed a greater emphasis on retrospective evaluation. Third, as previous studies have found significant gender differences in the use of orientation strategies, this study was designed to monitor the variations in sex differences for each analysis.

Method:

Thirty two male and female adult subjects participated in the study. Subjects were patrons of the Ontario Institute for Studies in Education cafeteria selected on volunteer basis using a quasi-random procedure. All subjects were individually read the Heinz dilemma and asked three questions. Interviews were conducted by the author and were transcribed and

segmented for analysis using Winograd (1983). Following are the three questions posed to subjects.

Question #1. "What should Heinz do?"

Question #2. "If you were required to support the course of action that you have chosen for Heinz, how would you do it?"

Question #3. "Heinz attempts to steal the drug for his wife but is apprehended by the police. During his trial evidence is presented that determines Heinz's guilt. What I would like you to imagine is that you have been called to the stand to give witness on Heinz's behalf. Given that your task is to try and justify Heinz's action, how would you do it?'

Justice and care reasoning was measured using Lyons (1982) coding procedures but due to an insufficient number of considerations a global classification of either justice, care, mixed or uncoded was applied for subjects' responses to the first two questions. The coder was trained by the author and was blind to gender as well as to all hypotheses of the study. The inter rater reliability based on the proportion of agreement was .74. While this result is somewhat low, it is in the acceptable range. Reliability for the MRG was assessed only for the intermediate nodes used in the data analysis: Eg. PRINCIPLEs, RATIONALEs, INTERACTIVE PLANs and SOCIAL EPISODEs. A rater who was unfamiliar with

Deliberation and justificatory strategies were assessed using a rater who was unfamiliar with the MRG. The rater coded simply for the presence or absence of the higher level knowledge structures (PRINCIPLEs, RATIONALEs, INTERACTIVE PLANs and SOCIAL EPISODEs) using definitions derived from the MRG. The proportion of agreement for the identification of these four structures for all 32 protocols was .78.

Results:

Question type and Planning versus Justification reasoning strategies.

Responses to the first question (What should Heinz do?) produced only two examples of PRINCIPLEs (one male and one female) and four RATIONALEs (three male and one female). Due to these small numbers statistical analyses were conducted only for the kind of planning structure used by each subject. Table 3 assesses the relationship between

gender and choice of the highest level planning structure used by each subject. SIMPLE_ACTIONs and PLANs are defined by the COURSE_OF_ACTION rule as are the interactive structures which include both INTERACTIVE_PLANs and SOCIAL_EPISODEs.

Table 3

Number of Subjects by Sex for Type of Planning Structure
for the First Question (Oriented to Practical Deliberation). N=32.

Gender	SIMPLE_ACTIONs	PLANs	Interactive Structures
Male	9	6	1
Female	4	5	7

A 2 X 3 (Gender X Planning Structure) chi-square test revealed a significant effect, $X = 6.514$, $df=2$, $p<.05$ indicating that women in this sample demonstrated a greater tendency to make use of interactive planning structures, and less likely to use simple plans to resolve the issue.

Analyses conducted to assess the relationship between gender and structures applied to the second question (oriented to justification) were to compare subjects who used JUSTIFICATION structures (PRINCIPLEs and RATIONALEs) with those who only used planning structures (defined by the COURSE OF ACTION rule) appear in Table 4. However six subjects (three males and three females) employed an unexpected strategy which was categorized as an argument from motive (eg. arguing that the action the subject generated for the protagonist is one that anyone would perform in similar situations.) While these structures represent a type on rationale they did not follow a principled argumentation. As they could not clearly be assimilated to the hypothesis under test, they were excluded from the following analysis. One subject's response was rated as not codable.

Table 4

Number of Subjects by Sex for JUSTIFICATION and Planning Structure for the Second Question Oriented to Justification. N=25.

Gender	JUSTIFICATION	Planning Structure
Male	10	2
Female	5	8

A 2 X 2 (Gender X Planning and JUSTIFICATION Structure) chi-square test revealed a significant effect, $X = 5.235$, df=1, $p<.05$ indicating that men in this sample made more use of JUSTIFICATION structures while women tended toward use of interactive planning structures in answering the second question (oriented to justification).

Analyses conducted to assess the relationship between gender and structures applied to the third question graded most clearly toward retrospective evaluation revealed that women and men were equally likely to adduce principles and rationales in defense of Heinz's action, $X = .867$, df=2, p=.64. This question also produced more arguments form motive with the result that, contrary to prediction, there was a small decline in the use of JUSTIFICATION structures relative to those exhibited in responses to the second justification question.

Table 5 shows the interaction between use of planning and JUSTIFICATION structures with the dilemma questions graded toward an increasing emphasis on retrospective evaluation.

Table 5

Number of Subjects by Dilemma Questions for use of Plans, JUSTIFICATION Structures and Arguments from Motive.

Question #	Planning	JUSTIFICATION	Arg. from Motive
First	26	6	0
Second	10	15	6
Third	2	12	18

A 3 X 3 (Question # X Planning Structure, JUSTIFICATION and Argument from Motive) revealed a significant effect, $X = 47.95$, $p<.0001$. The hypothesis that moral orientation reasoning varies as a function of the subjects' interpretation of the problem task is supported by this observed shift to a greater use of JUSTIFICATION structures in response to questions oriented to retrospective evaluation.

Identification of Moral Orientation Strategies and Comparison of the Lyons and MRG Methodologies.

Analyses conducted to assess the relationship between gender and the moral orientation strategies identified by the MRG are presented in table 6. Comparisons were made on the basis of coded responses to the first two questions as these were responses that were not influenced by the constraint of a determined course of action (eg. the third question) and, so, represent a integrated or coherent solution. A protocol was scored as exhibiting a justification strategy if at any point in the protocol the subject generated a SIMPLE ACTION or single actor PLAN follow by a JUSTIFICATION. A deliberation or ends-oriented protocol was identified if at any point the subject used an interactive planning structure (either a INTERACTIVE_PLAN or a SOCIAL_EPISODE). Using this criteria 25 protocols were identified as exhibiting a Deliberation or Justification strategies, while none of these 25 exhibited both.

Table 6

Number of Subjects by Sex for Justification and Deliberation Moral Orientation Strategy (MRG) N=25.

Gender	Justification Strategy	Deliberation Strategy
Male	11	1
Female	5	8

A 2 by 2 (Gender X Deliberative and Justificatory Strategy) chi-square test was highly significant, $X = 7.667$, df=1, $p<.005$ indicating that men in this sample showed a greater use of the justificatory moral strategy while women tended toward use of the deliberative strategy in their responses to this hypothetical dilemma.

Additional evidence that the discursive framework gives an adequate explanation of what constitutes an orientation strategy is that in both studies *none* of the protocols identified as containing either justificatory or deliberative structures exhibited any of the knowledge processes characteristic of the other orientation. This does not, of course, explain why women tended to adopt a deliberation strategy and men a justificatory one. Future research can focus on this issue in a principled way by examining gender effects in the strategies men and women consider decisive in the resolution of different kinds of moral conflicts.

The theoretical description and successful application of the methodology presented here support a view that justification and deliberation are distinct moral or discursive practices which are directed toward different questions based on a different understanding of what it is that is to be accomplished. The justificatory mode responds to the question 'How can I best choose and support a course of action using the most effective or unassailable justification?' A moral response is concerned with defending a course of action using *a form of reasoning* that would be most likely to command assent. As this concern for "wide" justification is at issue the arguments that these subjects present are likely to exhibit a more general or formal character. The application of a principle translates the options into claims and provides a "method of choice" that independent of the actual options and so constitutes a deeper truth. Subjects using this strategy are more likely to take the parameters of the dilemma *ceteris paribus*, in much the same way that the logician, in order to effect a proof, must take statements as *premises* (i.e. taken as true or given for the purposes of drawing valid conclusions).[4] This means that the criteria controlling the cognitive processing is the correctness and coherence of the *statements about the events* in the dilemma. Evidence for this is that subjects using this mode would be more likely to employ the modality of necessity (i.e. deontic modal operators) or conclude a sequence of statements that constitute a rationale with a logical operator such as "therefore" followed by a proposition reaffirming the original course of action taken as premise (see subject 31 below).[5]

The deliberative mode responds to the question, 'How can I best evaluate and decide for one course of action over another?' A moral response requires the generation and arrangement of *events* in terms of higher order ends or goals and their more intermediate means. While in the justificatory mode the focus is on the necessity of relations among

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[4] I am indebted to David Olson for suggesting this analogy. See also Olsen (1991).

[5] Subjects in this mode were also most likely to make comments or asides such as "I'm assuming all other avenues have been exhausted" or "that there are no other options available" thereby negating (while accounting for) the possibility there may be other premises upon which an argument might be founded.

statements, the deliberative mode focuses on the plausible relations among actions and beliefs in a social world. There is a contrast between thinking about events and thinking about statements about events, or, of thinking about actions and thinking about judgements about actions. In the justification orientation, a dilemma (understood as a moral dilemma) is likely to be conceived as a call for adjudication by means of a decision and backed up by 'wide' justification. What is required for a deliberative strategy is appropriate action that demands both the arrangement of ends and the assessment of action in the light of that arrangement (Sherman 1989; Nussbaum 1986). This is likely to require a rearrangement or extension of the parameters set out in the dilemma. The criteria of success is not simple coherence or correctness but something closer to what Bruner (1986) has called (in a related argument) verisimilitude or believability. The values or options deliberated are not translated into claims nor need they be considered commensurable. Rather, the value of a given option is *constituted* by the narrative (cf. Raz 1986). Any explicit valuation of a course of action in this orientation is achieved indirectly by the appraisal of possible outcomes of alternate plans and episodes which a subject may generate, compare and then (perhaps) reject (see subject #16 below where the prima facie desirability of acquiring the drug by theft is checked by its possible interference with a higher order end of sustaining a caring relationship). The critical standard is not whether the argument is defensible but whether the course of action chosen is the best possible given these particular understandings and circumstances.

This study provides a more precise specification of different orientations of moral problem solving. As the findings suggest that subjects are likely to possess a competence to reason using either strategy, questions arise as to the nature of the factors determining an orientation preference for a particular conflict. Conceding that it is unlikely these orientations, viewed as discursive strategies, are well understood on the line of an enduring character trait, we need to be better informed as to the circumstances and factors that support an understanding of ethical conflict (for a particular individual or gender) as requiring deliberative or justificatory reasoning. If these factors are not taken into consideration we are likely to misinterpret what different individuals perceive the moral task to require of them.

The discursive framework and methodology presented here represent a preliminary step toward the realization of these goals. Perhaps why a discursive framework has not yet been applied is due to the important but somewhat narrow focus toward identifying gender differences. Such differences, it is believed, account for much or all of the causal story

pertaining to observed differences in moral orientation. While this certainly may be so it does not directly address the prior question of precisely what gender differences are differences in. If this problem is not given clear priority we place ourselves in the ironic situation of having a commitment to an appealing causal-explanatory story while being much less clear about the phenomena that it might explain (cf. Hacking 1991).

References.

Backus, J. W. (1959). The Syntax and Semantics of the Proposed International Algebraic Language of the Zurich ACM-GAMM Conference. Proceedings of the International Conference on Information Processing. (pp. 125-32).

Breuleux, A. (1990) L'Élaboration et L'Exécution de Plans dans une Tâche de Rédaction [The construction and execution of plans in a writing task]. Unpublished doctoral dissertation, University of Montréal, Montréal.

Bruner, J. (1986) Actual Minds Possible Worlds. Cambridge M.A.: Harvard University Press.

Bruce, B. C. (Plans and Social Action) (1984). R. J. Spiro, B. C. Bruce, & W. F. Brewer (Editors.), Theoretical Issues in Reading Comprehension: Perspectives from Cognitive Psychology, Linguistics, Artificial Intelligence and Education. (R. J. Spiro) (The Psychology of Reading). Hillsdale, New Jersey: Lawrence Erlbaum Associates, Publishers.

Bruce, B. C., & Newman, D. (1978) Interacting Plans. Cognitive Science, 2, 195-233.

Gilligan, C. (1982) In a Different Voice: Psychological Theory and Women's Development. Cambridge M.A.: Harvard University Press.

Hacking, I. (1991) The Making and Molding of Child Abuse. Critical Inquiry, 17: 253-88.

Hampshire, S. (1983). Fallacies in Moral Reasoning. A. MacIntyre, & S. Hauerwas (Editors.), Changing Perspectives in Moral Philosophy. Notre Dame: Notre Dame University Press

Harré. R. (1979) Social Being Oxford: Basil Backwell.

Harré. R. (1984) Personal Being: A Theory for Individual Psychology. Cambridge MA: Harvard University Press.

Johnston, K. (1988) Adolescents' solutions to dilemmas in fables: Tow moral orientations

- two problem solving strategies. In C. Gilligan, J. Ward, J.Taylor & B. Bardige (Eds.), Mapping the Moral Domain. Cambridge, MA: Harvard University Press.

Keefer, M.W., Bracewell, R. & Breuleux, A. (1991) Specifying Justice and Response Reasoning Strategies in Subjects' Protocols Presented at American Educational Research Association, Chicago IL.

Kohlberg, L.(1984) Essays on Moral Development: Vol. 2. The Philosophy of Moral Development. San Francisco: Harper & Row.

Langedale, S. (1983) Moral Orientation and Moral Development: The Analysis of Care and Justice Reasoning across Different Dilemmas.Unpublished doctoral dissertation, Harvard Graduate School of Education, Cambridge MA.

Lyons, N. (1982) Conceptions of Self and Morality and Modes of Moral Choice: Identifying Justice and Care in Judgements of Actual Moral Dilemmas. Unpublished doctoral dissertation, Harvard University, Cambridge MA.

Lyons, N. (1983) Two Perspectives: On Self Relationships and Morality. Harvard Education Review, 53(2), 125-45.

Nussbaum, M. (1986) The Fragility of Goodness: Luck and Ethics in Greek Tragedy and Philosophy. Cambridge: Cambridge University Press.

Olson, D. R. (1991) Writing as a Technology of the Mind. Paper prepared for the Workshop on "Technologies of the Mind", Nov, 25-26: Gothenberg Sweden.

Pratt, M. W., Golding, G., Hunter, W., & Sampson, R. (1988) Sex Differences in Adult Moral Orientations. Journal of Personality, 56, 373-391

Raz, J. (1986) The Morality of Freedom. Oxford: Clarendon Press.

Sherman, N. (1989) The Fabric of Character: Aristotle's Theory of Virtue. Oxford: Clarendon Press.

Walker, L., DeVries, B., & Trecethan, S. (1987) Moral Stages and Moral Orientation.

Child Development, 58 , 842-858.

Walker, L., (1989) A Longitutidinal Study of Moral Reasoning. Child Development, 60, 157-166.

Winograd. T. (1983) Language as a Cognitive Process: Vol. 1, Syntax. Reading MA: Addison-Wesley Publishing.

Orient

Appendix A.
Encoding Scheme for the Heinz Dilemma using the
Moral Reasoning Grammar

The basic notation (meta-symbols) for designating grammatical operations are presented in table #1.

Table 1

Notation Conventions for the MRG:

::=	designates "is rewritten as"
"space"	designates conjunction "and"
|	designates disjunction "or"
'	designates a primitive concept
*	designates constituent as iterative
{ }	designates constituent as optional
_	designates one constituent

The top level structure of the Moral Reasoning Grammar is expressed by the following rule:

MORAL_SOLUTION ::= COURSE_OF_ACTION {JUSTIFICATION}*

The first rule defines a MORAL_SOLUTION as *requiring* a COURSE_OF_ACTION with an optional and iterative call for a JUSTIFICATION. The COURSE_OF_ACTION may take the form of a simple ACTION; a simple PLAN; an INTERACTIVE_PLAN; or the enactment of a SOCIAL_EPISODE (that includes interacting plans). The COURSE OF ACTION rule, which is defined below, is rewritten as follows:

COURSE_OF_ACTION ::= ACTION | PLAN | INTERACTIVE_PLAN | SOCIAL_EPISODE

Every MORAL_SOLUTION begins with a specification of a COURSE_OF_ACTION which may be supported by a JUSTIFICATION. Moral responses generated by either of the orientations will exhibit a different degree of emphasis on the reasoning described by these top level structures.

Formal Expression of the Justification Orientation.

As described above, the Justification orientation is characterized by the generation of relatively simple COURSE_OF_ACTIONs, consisting paradigmatically of an ACTION or single actor PLAN followed by a focus on their JUSTIFICATION. A summary of the rules that account for the general knowledge structures of the rights orientation is presented in table #2.

Table 2

Rules for the Justification Orientation.

JUSTIFICATION ::= PRINCIPLE | RATIONALE
PRINCIPLE ::= ACTOR CLAIM RELATION ACTOR CLAIM
ACTOR ::= HEINZ | DRUGGIST | COMMUNITY | WIFE
CLAIM ::= PERSONAL | LEGAL | MORAL
RELATION ::= MORE_IMPORTANT | LESS_IMPORTANT
RATIONALE ::= ALTERNATE_ACTION NEGATION
ALTERNATE_ACTION ::= COURSE_OF_ACTION
NEGATION ::= 'NEGATIVE

The essential structure of rights reasoning involves a balancing of moral claims between actors in the story. This component is expressed in the following rule:

PRINCIPLE ::= ACTOR CLAIM RELATION ACTOR CLAIM

Moral or deontic justifications have been described by Kohlberg as propositional deductions from a stage or principle (1984, p. 57). They provide the "method of choice" that enables agents to choose between moral norms or rules whenever they conflict. These norms or maxims of conduct are expressed as CLAIMs presented by the participant ACTORs in the dilemma. They can be rewritten as either MORAL, LEGAL or PERSONAL.

CLAIM ::= PERSONAL | LEGAL | MORAL

The RELATION rule provides the means to specify "a hierarchical preference" between the chosen CLAIMs. This specification is required for those situations where norms conflict.

RELATION ::= MORE_IMPORTANT | LESS_IMPORTANT

An example of an application of this rule is given in subject #1's protocol (subjects' utterances are numbered).

> Q. If you were required to support the course of action that you have chosen for Heinz, how would you do it?
>
> 1.6 Well I would say that he is right in valuing his wife's life over respecting the right for someone else to ah withhold their property from him.
>
> 1.7 In other words his wife's life is worth more that ah the pharmacists right to withhold the property from him.
>
> 1.8 Life is more valuable than property.

Analysis of segments 1.6 to 1.8 for subject #1:

(JUSTIFICATION (PRINCIPLE (ACTOR (WIFE)) (CLAIM (MORAL (LIFE OF WIFE))) (RELATION (MORE_IMPORTANT))) (ACTOR (DRUGGIST)) (CLAIM (LEGAL (RIGHT TO SELL PROPERTY)))) (SEG.ID (1.6-1.7-1.8)))))

The second option provided by the JUSTIFICATION rule is the RATIONALE. This rule is defined as follows:

RATIONALE ::= ALTERNATE_ACTION NEGATION

A RATIONALE is a further JUSTIFICATION of a ACTION that is (usually) supported by a PRINCIPLE. Essentially, it is an instantiation of the *ceteris paribus* conditions that support the a rule-based solution. It takes the form *retrospective* assessment of ALTERNATE ACTIONs which an agent has undertaken to achieve a goal.

ALTERNATE_ACTION ::= COURSE_OF_ACTION

The COURSE_OF_ACTION rule is defined below. The ALTERNATE courses of action are then negated as not possible or blocked in this instance. This is characteristically followed by a reaffirmation of the COURSE_OF_ACTION proposed. Specific linguistic markers for this structure are modality of necessity (deontic modals) as well as logical propositional markers such as "therefore", "it follows that" etc.

NEGATION ::= 'NEGATIVE

An example of an application of this structure is given in subject #31's protocol.

Q. What should Heinz do?...

1.7 And he has actually gone and talked right to him

1.8 and explained the situation

1.9 and still the guy seems to be obstinate

1.10 and not very helpful at all in the most amazing, hard to believe level - his not accepting the guy's dilemma.

1.11 And therefore certainly if I were Heinz anyway, I would steal the drug.

Analysis of segments 1.7 to 1.11 for subject #31:

(JUSTIFICATION (RATIONALE (ALTERNATE_ACTION (COURSE_OF_ACTION (ACTION (GOAL_STATE (HAVE DRUG)) (BY_MEANS_OF) (OPERATOR (INTERACTIVE_OPERATOR (TALK TO HIM))) (INTERACTIVE_OPERATOR (EXPLAIN SITUATION))) (HAS_EFFECT) (OUTCOME (DRUGGIST OBSTINATE)) (SEG_ID (1.3-1.6-1.7-1.8)))) (NEGATION (SEG_ID (1.9-1.10))) (NEGATIVE)))))

Formal Expression of the Deliberation Orientation.

The analysis of deliberation reasoning includes definitions for narrative and interactive structures. If subjects were to focus on the prospective problems of practical deliberation it is hypothesized that they would attend to the generation of narrative episodes motivated by and directed toward the intentional stance of participants.

An adaptation of a story grammar can specify the temporal order of action sequences involving single protagonists. However, while a story grammar can provide a description of the flow of event patterns it cannot show how the internal responses or the context and settings of the narrative are related to the plans, action and beliefs of the character(s) (Bruce, 1980). Plans can also (and importantly) be used to act upon or *express* shared social meanings in order to modify or change other character's beliefs or goals (Harré 1984; Newman and Bruce 1984).[6] For these reasons it was decided that an interactive planning methodology (Bruce and Newman 1978) would provide a useful approach for obtaining information on deliberative or narrative based strategies in moral reasoning involving two or more protagonists.

A summary of the rules that account for the general knowledge structures of the deliberation orientation is presented in table #3.

[6]It can be argued that every interactive course of practical action has an expressive dimension that makes an appeal (at least implicitly) to standards of rationality. According to such a view questions of practical action are not easily separable from questions of critical or practical rationality. Keeping this difference in mind, the distinction maintained in this work can be reformulated as an orientation (justification) wherein these questions are viewed as essentially (and importantly) separable, and, another (deliberation) where they are not distinguished. See Harré (1979; 1984) for a treatment of these differences.

Table 3

Rules for the Deliberation Orientation.

COURSE_OF_ACTION ::= ACTION {EVAUALTION} | PLAN | INTERACTIVE_PLAN | SOCIAL_EPISODE
ACTION ::= {ENABLING_COND} GOAL_STATE OPERATOR OUTCOME
OPERATOR ::= SIMPLE_OPERATOR | INTERACTIVE_OPERATOR
PLAN ::= RELATION COURSE_OF_ACTION COURSE_OF_ACTION*
RELATION ::= 'AND | 'OR | 'ORD_TEMP | 'SUBGOAL | 'COND
INTERACTIVE_PLAN ::= PARTICIPANT_PLAN PARTICIPANT_PLAN INTERACTION
PARTICIPANT_PLAN ::= ACTOR PLAN | ACTOR ACTION
INTERACTION ::= SUCCESSFUL| FAILED | CONFLICT
SOCIAL_EPISODE ::= INITIATE INTERACTIVE_PLAN
INTIATE ::= MAINTAIN_INTENTION SOCIAL_OPERATOR

The top level rule in this orientation is:

COURSE_OF_ACTION ::= ACTION {APPRAISAL} | PLAN | INTERACTIVE_PLAN | SOCIAL_EPISODE

This rule specifies four options that constitute a subject's chosen course of action in resolving the dilemma. They include a simple action; a single actor plan; an interactive plan or a social episode. The optional APPRAISALs provide a general assessment of a COURSE_OF_ACTION effected by an ACTOR. An ACTION is the fundamental unit in this analysis. Its basic nodes are rewritten as follows:

ACTION ::= {ENABLING_COND} GOAL_STATE 'BY_MEANS_OF_OPERATOR 'HAS_EFFECT OUTCOME

A PLAN is a representation that relates ACTIONs or COURSE OF ACTIONs (Breuleux, 1990). The rule for this component is as follows:

PLAN ::= RELATION COURSE_OF_ACTION COURSE_OF_ACTION*

The units incorporated into a PLAN can be simple ACTIONs or single actor PLANs, or more complex interactive structures. These include INTERACTIVE_PLANs and SOCIAL_EPISODEs (which include interacting plans). The relations connecting PLANs include: conjunctive AND, disjunctive OR, temporal order ORD_TEMP, conditional COND, and subgoal SUBGOAL. All these structures terminate with the basic ACTION unit.

RELATION ::= 'AND | 'OR | 'ORD_TEMP | 'SUBGOAL | 'COND

An example of a single actor planning sequence (a simple narrative episode) is provided in the protocol of subject #16

1.1 OK (25.00) Well I don't think he should steal it

1.2 because even if he steals it...

1.3 if he steals it and gets caught

1.4 then even if the wife lives

1.5 then he'll be in jail or whatever

1.6 and she will be either in the hospital or dead because there is no guarantees.

Analysis of segments 1.1 to 1.6 for subject #16:

(MORAL_SOLUTION (COURSE_OF_ACTION (PLAN (RELATION (COND)) (COURSE_OF_ACTION (ACTION (GOAL_STATE (HAVE DRUG)) (BY_MEANS_OF) (OPERATOR (SIMPLE_OPERATOR (STEAL)) (HAS_EFFECT) (OUTCOME (ELIDED)) (SEG_ID ((1.1))))) (COURSE_OF_ACTION (PLAN (RELATION (ORD_TEMP)) (COURSE_OF_ACTION (ACTION (GOAL_STATE (HAVE DRUG)) (BY_MEANS_OF) (OPERATOR (SIMPLE_OPERATOR (STEAL))) (HAS_EFFECT) (OUTCOME ((ELIDED))) (SEG_ID ((1.2))))) (COURSE_OF_ACTION (ACTION (GOAL_STATE (HAVE DRUG)) (BY_MEANS_OF) (OPERATOR (SIMPLE_OPERATOR (STEAL))) (HAS_EFFECT) (OUTCOME ((GETS CAUGHT))) (SEG_ID ((1.3))))(COURSE_OF_ACTION (PLAN (RELATION (AND)) (COURSE_OF_ACTION (ACTION (GOAL_STATE (ELIDED)) (BY_MEANS_OF) (OPERATOR (SIMPLE_OPERATOR ((GO IN JAIL)))) (HAS_EFFECT) (OUTCOME ((BE IN JAIL))) (SEG_ID ((1.5))))) (COURSE_OF_ACTION (ACTION (ENABLES (ENABLING_COND (1.4)))(GOAL_STATE (ELIDED)) (BY_MEANS_OF) (OPERATOR (ELIDED)) (HAS_EFFECT) (OUTCOME ((IN HOSPITAL OR DEAD))) (SEG_ID ((1.6)))))))))))

Interacting structures are defined by the following rule:

INTERACTIVE_PLAN ::= PARTICIPANT_PLAN PARTICIPANT_PLAN INTERACTION

An INTERACTING PLAN is a plan carried out by an ACTOR that requires a specification of the GOAL of the ACTOR'S own COURSE OF ACTION as well as an understanding of the ACTION or PLAN of the participant ACTOR. The plan is thus motivated by and directed toward the intentional stance of the other participant(s). The INTERACTIVE_PLAN will include some response on behalf of the other ACTOR(s) determined by either an ACTION or another PLAN sequence.

PARTICIPANT_PLAN ::= ACTOR PLAN | ACTOR ACTION

The result of the interaction is specified by the INTERACTION rule. The interaction is specified by the following rule:

INTERACTION ::= SUCCESSFUL | FAILED | CONFLICT

While the INTERACTIVE PLAN structures also terminate with the basic ACTION unit, the components of the unit are of a qualitatively distinct sort. These include, for example, the use of INTERACTIVE OPERATORs distinguished as attempts to command cooperation between participants, directed toward a change in mental state, and utilizing knowledge of participant actor goals.

OPERATOR ::= SIMPLE_OPERATOR | INTERACTIVE_OPERATOR

An example of an interactive structure is provided in the protocol of subject #10.

Q What should Heinz do? ....

1.14 Umm He could try elsewhere

1.15 or he could probably approach this druggist

1.16 and tell him well if his wife were cured well that would be the best advertisement for his drug

1.17 so that he would be able to make something out of that too.

1.18 Because the drug maker would profit from having known one case was cured

1.19 so he could ask even more money from the next people who would be interested in the drug.

1.20 I think he could (inaudible) persuade the druggist to have a solution that would be profitable for everybody.

Analysis of segments 1.14 to 1.20 for subject # 10:

(COURSE_OF_ACTION (PLAN (RELATION (OR)) (COURSE_OF_ACTION (ACTION (GOAL_STATE (ELIDED)) (BY_MEANS_OF) (OPERATOR (SIMPLE_OPERATOR (TRY ELSEWHERE))) (HAS_EFFECT) (OUTCOME (ELIDED)) (SEG_ID (1.14)))) (COURSE_OF_ACTION (INTERACTIVE_PLAN (PARTICIPANT_PLAN (ACTOR ACTION (ACTOR (HEINZ)) (ACTION (ENABLING_COND (ENABLES) (ENABLING_COND (STATE) (SEG_ID (1.16 BEST ADVERTISEMENT)))))(GOAL_STATE (HELP WIFE)) (BY_MEANS_OF) (OPERATOR (INTERACTIVE_OPERATOR (PERSUADE DRUGGIST)) (HAS_EFFECT) (OUTCOME (MAKE SOMETHING OUT OF IT (1.17))) (SEG_ID (1.15 1.20))))) (PARTICIPANT_PLAN (ACTOR ACTION (ACTOR (DRUGGIST)) (ACTION (ENABLING_COND. (ENABLES) (ENABLING_COND (STATE) (SEG_ID (1.18 PROFIT KNOWING SOMEONE CURED)))) (GOAL_STATE (HAVE MONEY)) (BY_MEANS_OF) (OPERATOR (SIMPLE_OPERATOR (DRUGGIST_OPERATOR (MAKE MONEY)))) (HAS_EFFECT) (OUTCOME (MORE MONEY FROM NEXT PERSON)) (SEG_ID (1.19)))))) (INTERACTION (SUCCESSFUL_INTERACTION (EQUIV) (ACTOR_GOAL ((1.14 1.20))) (ACTOR_OUTCOME ((1.19))))))))))))))

A SOCIAL EPISODE is identified when a protagonist enlists others in an activity in order to achieve certain goals.

SOCIAL_EPISODE ::= INITIATE INTERACTIVE_PLAN

This mutual activity originates when two or more participants have the intention to maintain the activity. This is specified by the following rule:

INITIATE ::= MAINTAIN_INTENTION SOCIAL_OPERATOR

The MAINTAIN_INTENTION specifies the attempt on the part of the initiating ACTOR to enlist and maintain the intention of the participant ACTOR(s) to play their role in the mutual activity. SOCIAL OPERATORs are actions 'situated' in a social context that are used by an ACTOR in attempting to enlist and maintain other ACTOR's participation in a SOCIAL_EPISODE. These characteristically include a manipulation of what Bruce and Newman (1978) refer to as "social facts" that are constituted by shared meanings and maintained consensus. An example of such a fact would be knowledge of the role a newspaper might have as advocate in a social problem. An important implication is that these sorts of plans can be *used* to act on or manipulate these social facts in order to create or modify other character's beliefs so as to redefine states, actions, or goals. Newman and Bruce (1984) hold that human plans are distinct not only in that they act upon the intentional states of the individual's involved; they also act upon and manipulate the social facts that form the basis for coordinated social interaction (p.7). Harré (1984) seems to make a similar claim in his distinction between the practical and expressive dimensions of practical activity.

An example of this structure is given in the protocol of subject #4.

1.8 The next thing is if the person... the scientist is completely umm uncooperative

1.9 perhaps he could make it more a media thing and expose him... he or she.

1.10 Perhaps the public pressure would change the person's opinion.

1.11 So go to the press with the story.

Analysis of segments 1.86 to 1.11 for subject #4:

(SOCIAL_EPISODE (INITIATE (MAINTAIN_INTENTION ((EXPOSE HIM (SEG_ID (1.9))))) (SOCIAL_OPERATOR (PUT IT IN NEWSPAPER) (SEG_ID (1.11))))) (INTERACTIVE_PLAN (PARTICIPANT_PLAN (ACTOR_ACTION (ACTOR (COMMUNITY)) (ACTION (GOAL_STATE

(CHANGE OPINION)) (BY_MEANS_OF) (OPERATOR (INTERACTIVE_OPERATOR
(COMMUNITY_OPERATOR (PUBLIC PRESSURE)))) (HAS.EFFECT) (OUTCOME (ELIDED))
(SEG.ID ((1.10)))))) (PARTICIPANT.PLAN (ACTOR.ACTION (ACTOR (DRUGGIST)) (ACTION
(GOAL.STATE (ELIDED)) (BY.MEANS.OF) (OPERATOR (CHANGE OPINION)) (HAS.EFFECT)
(OUTCOME((CHANGED OPINION)))) (SEG.ID ((1.10))))) (INTERACTION
(SUCCESSFUL.INTERACTION (EQUIV) (ACTOR.GOAL ((1.10))) (ACTOR.OUTCOME
((1.10))))))))))))))